



## PLANNING AHEAD FOR A SAFE WORKING ENVIRONMENT

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**A**s an operator of a wastewater treatment plant myself, it is easy to take for granted just how hazardous of a location a treatment plant can be. Wastewater plants are among some of the most hazardous facilities to work in. Operators and employees alike are constantly exposed to many different types of hazards throughout their workday. Confined space, heavy equipment, inhalation hazards, noise pollution, exposure to hazardous chemicals and infectious diseases are just some of the conditions that operators have to be prepared to deal with on a daily basis. Typically, an operator can expect to encounter almost every single one of these hazards on a daily basis. For many maintenance workers and operators, they go about performing their duties in the plant as they always have, alone. Many wastewater operators have been tasked with running the plants with minimal staffing and many tasks which should be performed by more than one operator are tackled by one. As operators, we must take our safety seriously and know the dangers around us as we go about our day.

An excellent way to insure operator safety as they work is to develop a checklist for everyone to familiarize themselves with and then work together to maintain that safe working environment.

**1.** Work to develop a response plan for all types of in-plant risk. These would include: confined space locations, exposure to chemicals, disease and weather events such as tornadoes; handling, transportation and storage of materials; falls, slips and other injuries; overflows and spills; and establishing lockout and tagout procedures.

**2.** Thoroughly document all procedures for each risk response. Each step should be detailed in chronological order, providing an explanation of the “who, what, where, when and how.”

**3.** Familiarize all employees with the documented response plan. This is not a one-time event. Procedures should be reviewed in detail on a regular basis, to facilitate understanding and ensure that newly hired employees are introduced to the plan. Work with employees to bring attention to conditions that may become dangerous during certain times of the year.

**4.** Post response plan procedures in public areas of the wastewater treatment plant as another way to promote awareness and understanding.

**5.** Conduct drills on a regular basis, again to promote awareness and understanding — and also to reduce the potential

for confusion or panic in the event of a real injury or accident.

**6.** Make sure employees have the proper personal protective equipment (PPE) for all areas of the plant, including the lab. OSHA has extensive PPE standards. Equipment covered includes: eye, face and head protection, and respiratory devices and other items pertaining to chemical hazards and mechanical irritants.

**7.** It is common in wastewater treatment facilities to have visitors and tour groups. These people may not be acquainted with safety procedures or even aware of the potential hazards. A short briefing when visitors arrive, or a simple handout, may help put them in a safety conscious frame of mind.

**8.** Take care in specifying areas of the facility that visitors should not have access to. Make sure visitors are always accompanied by one or more trained, experienced employees during their visit.

**9.** Appoint a specific individual to be responsible for the safety program. Unless safety is a top priority for someone, it may become a low priority for everyone.

**10.** Make sure your wastewater treatment plant is in conformance with National Fire Protection Association (NFPA) guidelines; specifically, NFPA 820. This standard describes requirements for ventilation, construction materials, electrical equipment, fire protection and administrative controls.

**11.** OSHA safety requirements may also apply to areas within your wastewater treatment plant. In particular, warning signs should be clearly posted in confined spaces which are not designed for ongoing work and are accessible on a restricted basis. Typical areas in a wastewater treatment plant include aeration basins, primary tanks, manholes, and vaulted sampling pits.

**12.** Create safety teams to expand interest in, and leadership of, the safety initiative. Team members should have a presence in every shift of the operation. Their responsibilities can include leadership roles in various response plans, along with conducting small group or one on one safety awareness meetings.

**13.** Report safety statistics prominently in the plant. Fortunately, accidents and injuries are not an everyday occurrence in most wastewater treatment plants. The downside of this (if you can call it that) is that safety can become something that is taken for granted. However, if employees are reminded multiple times a day that they have gone for, say, 100 days without an accident, they may not be so apt to take safety for granted. ►►

**14.** Bring in outside safety trainers. While it may not be advisable to outsource complete responsibility for safety to an outside consultant or firm, it does make sense to supplement in house training with outside resources. For many employees, when an internal message is reinforced by an outside voice, it carries more weight. In addition, outside trainers that are experts in the field of industrial safety bring new ideas and best practices to you, which are invaluable for bringing continuous improvement to your safety program.

**15.** Keep learning. Along similar lines, safety leaders and all operations managers should regularly attend conferences, meetings and online webinars devoted to industrial safety in general and wastewater treatment plant safety in particular. One of the biggest advantages a wastewater company can gain over safety challenges is knowledge.

A strong safety program reduces the potential for injury and death. But the advantages of a well thought out, well documented, and well implemented safety program hardly end there. Safe wastewater treatment plants have healthier and happier employees, reducing turnover, work related absences and insurance related costs, not to mention improved morale and better all around performance. 💧💧💧

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